Abstract

The invention relates to an optical transmission system for transmitting optical signals consisting of N lengths of optical fibre, each comprising an optical fibre and a dispersion compensation unit. In order to transmit first optical signals having a first data transmission rate, the compensating amounts of the first to N-th dispersion compensation units are dimensioned in such a way that the first to N-th lengths of fibre are respectively under compensated by approximately the same undercompensating amount. In order to then transmit second optical signals having a second data transmission rate, a pre-compensation unit for pre-compensating the second optical signals is mounted upstream of the first length of fibre, said pre-compensation unit having a pre-compensating amount of between 0 ps/nm and -2000 ps/nm. In this way, optical signals having a higher bit rate, especially 40 Gbit/s-signals, can then be transmitted by means of an optical transmission system which is optimised in terms of dispersion for optical signals having a lower bit rate, especially 10 Gbit/s-signals.